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138



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The electronic patient record

2 EPR: working together to achieve success

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3 Implementing the EPR: regional providers, uniform standards

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4 “The advantages of a networked system are really obvious”

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EPR: working together to achieve success

The electronic patient record (EPR) is constantly being refined. This benefits everyone, from health professionals to the general public, because the more easily and securely health data can be accessed, the better for patients, their families and the medical staff caring for them.

Stephanie goes cycling in the Bernese Oberland. Unfortunately, she has an accident when taking a bend imprudently and breaks her leg. X-rays are taken at a hospital in the Bernese Oberland, and Stephanie is given prescriptions, medications and various reports when she is discharged. If she has an EPR, she can store all these documents in it – and when she visits her family doctor for a check-up on her return to Zurich, the doctor can look at all the documents even before the appointment. Stephanie could also give her pharmacist access, so that the pharmacy team can check her medication list.

This example shows how an EPR works: it groups all the information in one place and makes it accessible at all times, linking healthcare professionals in different cantons, improving the treatment provided and reducing duplication of effort.

The EPR system places patients firmly in the centre. They decide what goes into their EPR and who should have access to it. Up to now, this information was often kept at the family doctor's surgery, in the

hospital archives and in the physiotherapist's files. An EPR brings all this data together in one place. The better the overview available to patients, the more competent their healthcare decisions will be.

In this issue, we take a look at various questions having to do with the EPR system: What will it achieve? How far has it progressed? What additions are due to be made to EPRs?

Fragmented system

The EPR did not have an easy start to life. The Swiss healthcare system is highly fragmented. All the different bodies involved have their own IT systems. This makes it difficult to exchange data and presents a challenge for the EPR system, which is supposed to link all the institutions with one another. Nevertheless, a number of successes have already been achieved. Since August 2022 it has been possible for every individual in Switzerland to open an EPR. The system is operational throughout the country.

It is important to note that the EPR system rests on a solid legal

foundation, the Federal Act on the Electronic Patient Record (EPRA). Among other things, this states that patients themselves decide who may access their EPR; it also defines the tasks of the providers and ensures the highest security standards. Patient data is stored in Switzerland by the eight EPR (reference) communities, which are certified as conforming with all the legal requirements. The EPR is also the only platform offering interoperability for all EPR providers and all healthcare institutions in Switzerland.

Nassima Wyss-Mehira, Head of Digital Transformation and Steering Directorate at the FOPH, advises everyone to open an EPR now. "The EPR gives me access to all my medical documents, and I myself can decide who to share them with. The infrastructure is in place. Things are moving forward."

Covering the entire treatment chain

Hospitals, maternity clinics and care homes are now required to introduce EPRs and enter all treatment-relevant information in them. At present, about half the hospitals in Switzerland have done so, and the number is steadily rising. Hospitals have made the most progress. But things are moving forward in retirement and care homes, family doctors' practices and pharmacies. Nearly 15 per

cent of doctors' practices and five per cent of pharmacies have now signed up.

The amendment to the draft EPRA revision that the Federal Council released for consultation in June 2023 is intended to ensure that EPRs are used throughout the entire treatment chain: in other words, doctors, pharmacists, physiotherapists, chiropractors and other providers of outpatient services are required to use them. They too will have to join a (reference) community and store treatment-relevant medical documents in the EPR.

The role of the FOPH and eHealth Suisse

Meeting the targets will require the involvement of all participants – and, of course, good coordination and information. The latter role is being undertaken by the FOPH and eHealth Suisse. The FOPH prepares the legal basis for the Federal Council and Parliament (including monitoring and evaluation) and provides information about the EPR system. However, since the cantons are responsible for healthcare, there is a need for a central hub to coordinate between the federal government and the cantons. This task falls to eHealth Suisse.

Next steps

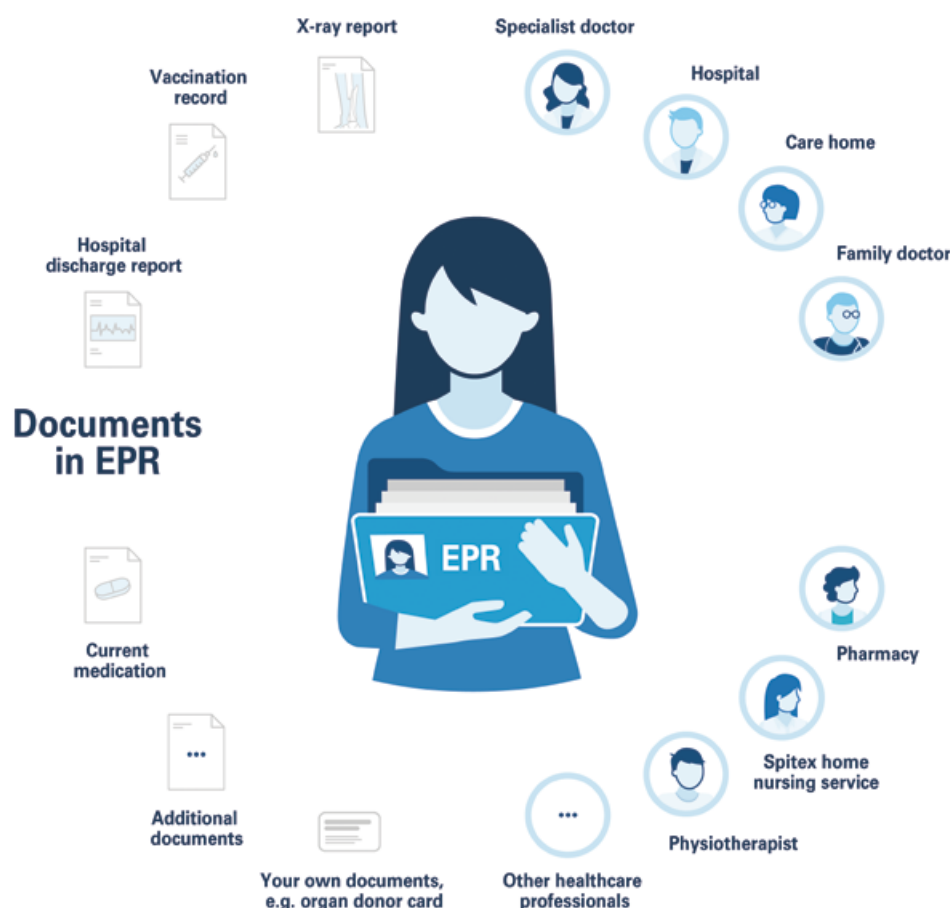
In order to tap the full potential of EPRs, the system must be continuously refined. The revision released by the Federal Council for consultation in June 2023 proposes various additions for this purpose. In future, for example, an EPR is to be opened automatically for each individual residing in Switzerland. Anyone who does not wish this to happen will be able to decline (opt-out model). As well as extending the system to all healthcare professionals providing outpatient care, the Federal Council proposes the release of data in an appropriate form for research purposes, if the patients want this to happen.

Contact:

Nassima Wyss-Mehira, Head of Digital Transformation and Steering Directorate at FOPH,
nassima.mehira@bag.admin.ch

Links:

- All information about EPRs: www.patientrecord.ch
- eHealth Suisse, Swiss Competence and Coordination Centre of the Confederation and the Cantons www.e-health-suisse.ch
- Further development of the EPR system including factsheets <https://tinyurl.com/3wa7x9mj>



Different treatment-relevant documents, such as reports on therapies received, can be stored centrally and filed securely in the EPR. And the owner of the EPR decides who has access.

Implementing the EPR: regional providers, uniform standards

Because of the federal system, the EPR is being introduced in a decentralised way in Switzerland. It is being implemented by seven reference communities and one community, all of which are certified under the Federal Act on the Electronic Patient Record (EPRA). They meet all the organisational and technical provisions as well as the requirements relating to data protection and data security set forth in the EPRA.

From hospital discharge summaries and prescriptions for glasses through to vaccination certificates, an EPR means that patients always have all their health information to hand, while a standard information channel is being made available for the first time for the exchange of health information. In 2017 the Confederation therefore passed the EPRA, laying down the legal framework for the introduction of the EPR system.

Eight solutions instead of 26

The EPRA forms the basis for digital exchange of data in a standardised national system. Although the cantons are responsible for healthcare, the EPR is being implemented regionally, rather than cantonally, by seven reference communities and one community. Whereas communities address their services to professionals and healthcare institutions only, and provide them with a connection to the EPR system, reference communities make EPRs available to the Swiss population.

CARA, an initiative by the cantons of Fribourg, Geneva, Jura, Valais and Vaud, and Mon Dossier Santé (canton of Neuchâtel) are two certified reference communities that have been established in French-speaking Switzerland. Emedo (canton of Aargau), Sanela, eSanita and Abilis are reference communities whose services are primarily intended for German-speaking Switzerland, and Associazione e-Health Ticino (ehti) is the provider in Ticino. Persons wishing to open an EPR may select the provider freely. Healthcare professionals and institutions are also free to choose between the eight providers.

More than 400 requirements

The (reference) communities must all comply with the same legal, technical and organisational certification requirements. A body recognised by the Swiss Accreditation Service carries out the formal EPRA certification process and conducts regular checks. The official EPR certification mark is awarded only to EPR services that have obtained certification and implemented the rigorous security requirements specified.

Since all the certified EPR providers comply with the same rules,



Eight (reference) communities are linked to each other. Source: eHealth Suisse.

the different systems are interoperable with one another. This means that their platforms are networked according to the same set of rules, and data can be exchanged throughout Switzerland via all the certified platforms and connected healthcare institutions.

Simplifying the processes

The (reference) communities provide the EPR platform and carry out technical implementation measures with regard to managing patient records and linking healthcare professionals with their patients. The processes, particularly for opening an EPR, are still too complicated at present, according to Patrice Hof, General Secretary of CARA and President of the Conference of (Reference) Communities: "Although we are seeing interest, and a willingness to use our platform, setting up and using an EPR is still insufficiently attractive. Establishing their identity, for example, is too time-consuming for most people. In order to simplify this process, we have introduced identification by video recognition in French-speaking Switzerland."

Working with EPRs is still time-consuming for health professionals, too. "The IT systems used by health professionals are not yet connected to the EPR system, so documents have to be manually uploaded to the EPR platform," says Hof. "Software developers need to establish these connections urgently so that more healthcare professionals can use EPR."

Advantages and disadvantages

The regional structure has many

advantages, including for data security, since the data in the EPR is encrypted and stored in several different locations instead of one central location. Another advantage is that the regional particularities of the federal healthcare system can be taken into account, which would not be possible if a single national system were adopted. The cantons and regions are thus able to cater to the specific requirements of their residents, according to Patrice Hof. And yet: "On the other hand, it has the disadvantage that a lot of technical coordination is needed between the reference communities."

Extra work is caused by the certification process, for example, and the introduction of exchange formats (structured data) which have to be implemented on multiple occasions because of the decentralised structure. Unlike unstructured documents (such as those in PDF format), exchange formats such as the electronic vaccination record allow information to be passed seamlessly between different IT systems used by healthcare professionals.

Contact:

Isabelle Gassmann-Hofmänner,
Information & Empowerment,
eHealth Suisse, isabelle.
gassmann@e-health-suisse.ch

Links:

- Communities and reference communities (eHealth Suisse): <https://tinyurl.com/3h3h67fn>
- More information on the EPR: www.patientrecord.ch

At first hand



Anne Lévy,
Director, Federal Office of
Public Health

Focus on quality and safety

Anyone who has a digital bank account knows how convenient it is to be able to access all the relevant information with just a few clicks. The same applies to EPRs in the healthcare system, with fast, secure access and a clear overview of all the key information. The benefits are huge – for patients, relatives and medical staff.

I personally am fortunate enough to enjoy good health. An organ donor card and a living will are important in case of a medical emergency. I have therefore stored this information securely in my EPR. The benefits are even more immediate for someone suffering from several chronic diseases. When the latest laboratory results, x-rays, medication lists, treatment plans and discharge summary for the most recent hospital stay are stored centrally in one location, all the medical staff involved can access them quickly and easily from any place of treatment. Provided the patient permits this.

An EPR puts the patient firmly in the centre. It strengthens their rights and increases their health literacy. During treatment, the patient may for example supply the physiotherapist with an operation report from the hospital. The physiotherapist then has all the relevant information to hand and can quickly start taking the right action. Treatment quality is thereby enhanced. An EPR can also improve patient safety: sharing a list of medications, for example, means that potentially dangerous interactions can quickly be recognised and avoided.

The more healthcare professionals and patients participate in the EPR system, the more the information contributes to effective medical treatment, and the better the team functions. Meanwhile, the EPR is constantly being developed and simplified, and practical new applications added. I am convinced that in a few years' time, EPRs will be used by most people as a matter of course. I'm looking forward to it and would like to thank everyone involved for their help with disseminating and developing the EPR system.

"The advantages of a networked system are really obvious"

Since public debate revolves mainly around data protection, we as a society are insufficiently aware of the great potential for improvement offered by EPRs. However, in order to turn this potential into reality, the system needs to be opened up and provide interfaces, says medical informatics expert Serge Bignens.

Mr Bignens, how would you explain the benefits of EPRs to your parents-in-law?

Serge Bignens: I would start with a concrete example: "Imagine something were to happen to you while you are out and about, and you need an emergency operation. Your family doctor cannot be reached and you are suffering from shock. It can only be an advantage for the emergency team to be able to look in one place to find out what you're allergic to and which medications you take regularly." There are also less drastic examples. For example, I could also say to my mother-in-law or father-in-law: "It would be a good idea if you could collect together all the documents you receive from your doctor in a safe place, so that you can discuss them with your children." After all, older people often feel stressed during a medical appointment, so they immediately forget much of what the doctor explained and recommended. Their children then obtain only a small amount of the information. They are therefore unable to give their parents the best possible support. An EPR can be of real assistance in such a case.

What are the disadvantages of EPRs?

I don't see any disadvantages in a properly set up and coordinated system. However, some people seem to regard the greater transparency that EPRs bring as a disadvantage.

In what way?

Sufficient data enables you to compare the quality of service pro-

viders, for example. These comparisons lead to losers as well as winners. Although there are no plans for quality comparisons under the current legal framework, this could change in the future. I therefore regard this concern as partially justified.

It is frequently argued that EPRs mean more work – and that data protection leads to additional costs.

In my view it is crucial to protect people's sensitive health data properly. That's why decentralised EPR data storage is so important. My medical information must under no circumstances influence the opportunities open to me on the labour market, or whether a credit card is issued to me. This means that each and every one of us must be able to safeguard our privacy. Having said that, we apply different standards as regards privacy in our daily lives. Many of us reveal a great deal about ourselves on social media. Basically, we always have to weigh things up when using digital services: how far do I trust the system – and what will I get in exchange?

What do you think of the idea that EPRs need to reach a critical mass before a positive domino effect is triggered?

I opened my own EPR some time ago. Just recently I was in hospital for tests. The staff asked me questions that they could have found the answers to in my EPR. "Have you looked at my EPR?" I asked. They replied: "No, we haven't been

trained on that yet." In fact, hospitals have been legally obliged to work with EPRs since 2017. They were given three years to introduce them, but that deadline expired over two years ago. More leadership is urgently required, both politically and from service providers.

How do you mean?

This spring I went to Estonia, where I talked to people about their widely used EPR system. It's no doubt true that they have a different view of the role of the state. Furthermore, they didn't start from the same position because they had no predecessor systems that needed to be taken into account. I nevertheless wanted to know more, asking: "How did you manage it?" The answer was clear: "Because certain people in key positions decided to see it through." We lack this kind of decisiveness. It reminds me of the situation at the UN Security Council: although all the members are sitting around the same table, the joint process gets nowhere because each one has a right of veto. Having so many vetoes can bring everything to a grinding halt. A similar problem has stalled the development of EPR so that it finds itself stuck in a blind alley. Unless other services are available in addition, gathering together individual PDF documents does not offer sufficient added value.

Can you see a way forward?

At the moment, EPR is like a medieval castle that has raised all its drawbridges for safety reasons while the people inside are starving. We need to let the drawbridges down again and open up the system. Application programming interfaces (APIs) are required, so that the data stored in the EPR can be accessed from outside, generating added value. This could lead to useful services for chronically ill people in particular: an external algorithm, for example, that evaluates the data in the EPR in order to detect adverse interactions between current medications and suggest better tolerated drug combinations. I would welcome it if some of the numerous innovations in mHealth and eHealth could be brought into the strictly regulated world of the EPR.

Professor Serge Bignens

After studying engineering at the Swiss Federal Institute of Technology in Lausanne (EPFL) and at Carnegie Mellon University in Pittsburgh, United States, Serge Bignens joined IT company ELCA in the 1990s, where he built up and led the eHealth business line in Switzerland. In 2009 he moved to the public health department of the Canton of Vaud, where he was in charge of defining and implementing the cantonal eHealth strategy. Serge Bignens has taught at Bern University of Applied Sciences since 2014 and has been head of the Institute for Medical Informatics since 2016. In addition, Professor Bignens is a founding member of the MIDATA cooperative, as well as being a board member of the Swiss Society for Medical Informatics and of the non-profit organisation CH++.



What would this require?

A business model, regulatory and technical openness – and, above all, strong political will. At present it is not possible to connect external services to the Swiss EPR. And we are clearly not ready to invest in an upgraded public service that goes beyond operating the EPR system at a minimal level. Even the currently planned revision of the EPRA will unfortunately deliver too little, too late. It was not until this summer that information about the advantages of EPRs began to be made widely available. Yet time is marching on, and I'm worried that Switzerland won't be able to keep up with other countries. I would be very sorry to see that happen, because I am a big fan of the EPR system with its vision and potential.



According to Serge Bignens, the EPD can help support one's parents in health matters by providing all the information at any time.

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Realisation: Adrian Heuss, Miriam Flury, advocacy ag

Head of Editorial Board: Adrian Kammer, adrian.kammer@bag.admin.ch

Editorial Board: Rahel Brönnimann, Claudia Brunner, Daniel Dauwalder, Adrian Kammer, Nadja Stirnimann, Simon Grossenbacher

Contributors: advocacy ag, members of staff of the FOPH, as well as external authors, Ori Schipper

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